

ROUTE PERMIT
FOR CONSTRUCTION OF
TWO HIGH VOLTAGE TRANSMISSION LINES
AND A SUBSTATION
IN
SOUTHWESTERN MINNESOTA
ISSUED TO
NORTHERN STATES POWER CO. d/b/a XCEL ENERGY
EQB DOCKET No. 03-73-TR-XCEL

In accordance with the requirements of Minnesota Statutes Section 116C.57 and Minnesota Rules Chapter 4400, this Route Permit is hereby issued to:

NORTHERN STATES POWER CO. d/b/a XCEL ENERGY

Northern States Power Co., d/b/a Xcel Energy (hereinafter referred to as Xcel Energy), is authorized by this route permit to construct a new 345 kilovolt high voltage transmission line and associated facilities approximately 86 miles long between the Lakefield Junction Substation, located in Jackson County, Minnesota, and the Split Rock Substation in Minnehaha County, South Dakota, and a new 115 kV high voltage transmission line and associated facilities approximately 40 miles long between the Chanarambie Substation in Murray County, Minnesota, and a new substation in Nobles County, Minnesota. The Minnesota portion of the project shall be built along the route identified in this Permit and in compliance with the conditions specified in this Permit.

Approved and adopted this 16th day of June, 2005.

STATE OF MINNESOTA
ENVIRONMENTAL QUALITY BOARD

Robert A. Schroeder, Chair

I. ROUTE PERMIT

The Minnesota Environmental Quality Board hereby issues this Route Permit to Xcel Energy pursuant to Minnesota Statutes section 116C.57 and Minnesota Rules Chapter 4400. This permit authorizes Xcel Energy to construct a 345 kilovolt high voltage transmission line in Rock, Nobles, and Jackson Counties, Minnesota and a 115 kilovolt high voltage transmission line in Nobles and Murray Counties, Minnesota and a new substation in Nobles County, Minnesota.

II. PROJECT DESCRIPTION

This Permit authorizes Xcel Energy to construct two new high voltage transmission lines and a new substation.

One new transmission line is an 86 mile long, 345,000-volt (345 kilovolt or kV) line that will connect the Lakefield Junction Substation in Jackson County Minnesota, and the Split Rock Substation in Minnehaha County, South Dakota. The second high voltage transmission line is a 115 kV line between the Chanarambie Substation in Murray County, Minnesota, and a new 345/115 kV Substation in Nobles County, Minnesota. The Nobles County Substation is a new substation authorized to be constructed under this Permit.

Unless different structures are requested by Xcel Energy and authorized by the Plan and Profile procedures in this permit as specified below in Section IV, Xcel Energy is authorized to use single pole, galvanized steel, davit arm structures for the 345 kV transmission line. The structures will have an average height of 120 to 140 feet and an average span of 950 feet. The conductor is proposed to be double bundled (two conductors) 954 kcmil type 13, Cardinal/ACSS/TW trapezoidal wire for each phase.

Unless different structures are requested by Xcel Energy and authorized by the Plan and Profile procedures in this permit as specified below in Section IV, for the single and double circuit 115 kV lines, Xcel Energy will use single pole galvanized steel davit arm structures. The structures will have an average height of 70 to 80 feet and an average span of 400 feet. The conductor is proposed to be double bundled (two conductors) 795 kcmil 26/7 Drake ACSS for each phase.

Xcel Energy may during final design modify the approved structures to accommodate existing single and future 34.5 kV wind feeder and other distribution lines as an underbuild on the 115 kV structures to consolidate lines.

III. DESIGNATED ROUTE AND SUBSTATION SITES

A. The 345 kV High Voltage Transmission Line.

The route designated by the EQB is described below and shown on the maps in Attachment A to this Permit. The approved route extends from the Lakefield Junction Substation and proceeds west to the South Dakota border:

The Interstate Route is 86 miles long and generally follows Interstate 90 (I-90) from the Lakefield Junction Substation in Jackson County, Minnesota to the Split Rock Substation in Minnehaha County, South Dakota. Approximately 9.7 miles of the route is in South Dakota. The one significant deviation from I-90 is around the City of Worthington where the route jogs north and follows an existing Alliant Energy 161 kV transmission line for approximately 12 miles and then heads south back to I-90 to avoid interfering with the Worthington Municipal Airport.

As defined in the maps in Appendices B.1, B.2, and B.3 of the Route Permit Application and the Environmental Impact Statement for EQB Docket No. 03-73-TR-Xcel, the approved route, consists of the following route segments in Minnesota: **I4, I5, I6, T9, T10, C5, I8, I9, C7, T14, T15, I15**. The final approved route is also shown in Figures A.1, A.2, A.3 and A.4 in Attachment A of this permit. Except as modified in the Special Conditions, Section IV of this Permit, the route has an allowed corridor width of 660 feet on either side of the route centerline to allow Xcel Energy final right-of-way design flexibility.

B. The 115 kV High Voltage Transmission Line.

The route designated by the EQB is described below and shown in Figure A6 in Attachment A to this Permit.

As defined in the maps in Appendix D of the Route Permit Application and the Environmental Impact Statement for EQB Docket No. 03-73-TR-Xcel, the approved route consists of the following route segments: **EW1, W2, W3, E3a, E3b, E3c, E3d, the southernmost one-mile of E4, M2, W5 (except the southernmost one-mile), W6**. Except as modified in the Special Conditions, Section IV of this Permit, the route has an allowed corridor width of 660 feet on either side of the route centerline to allow Xcel Energy final right-of-way design flexibility. A copy of the route map is also provided as Figure A.6 in Attachment A to this permit.

C. Nobles County Substation, modifications at Chanarambie and Lakefield Junction Substations, and associated transmission line modifications.

Xcel Energy is authorized to construct a new Nobles County Substation on Site A or Site B as defined in Xcel Energy's permit application and in the Environmental Impact Statement. The facilities shall be located in an area not exceeding 40 acres in size. Xcel Energy is also authorized to modify both the Lakefield Junction Substation and the Chanarambie Substation as described in Xcel Energy's permit application and in the Environmental Impact Statement.

The Lakefield Junction Substation must be modified to relocate existing transmission lines in the most efficient manner possible, to utilize double circuit structures where appropriate, and to relocate the existing 161 kV Alliant Energy line to exit from the north side of the substation.

IV. GENERAL CONDITIONS

The Permittee shall comply with the following conditions during construction of the transmission line and associated facilities and the life of this Permit.

A. Plan and Profile. At least 14 days before right-of-way preparation for construction begins, the Permittee shall provide the EQB with a plan and profile of the right-of-way and the specifications and drawings for right-of-way preparation, construction, cleanup, and restoration for the transmission line and the substation site. The Permittee may not commence construction until the 14 day period has expired or until the EQB has advised the Permittee in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If in the plan and profile Xcel Energy requests a wider right-of-way than specified in Section V, Special Conditions, it shall advise the EQB of the reasons for the change. Likewise if Xcel Energy decides to construct the line on the opposite side of Interstate I-90 or other roadways from that identified the Xcel Permit Application or as otherwise specified in Section V below, Special Conditions, Xcel Energy shall advise the EQB of the reasons for the change. Then, if the Chair advises Xcel Energy within ten days of receipt of the submission that the chair intends to bring the matter to the Board for consideration of amending the permit, Xcel Energy shall not complete right-of-way acquisition or begin construction on the affected portion of the line or substation until the Board has determined whether plan and profile is acceptable. If the Permittee intends to make any other significant changes in its plan and profile including the specifications and drawings after submission to the EQB, the Permittee shall notify the EQB at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

B. Construction Practices.

1. **Application.** The Permittee shall follow those specific construction practices and material specifications described in the Xcel Energy Application to the Minnesota Environmental Quality Board for a Route Permit for the Split Rock substation to Nobles County substation to Lakefield Junction substation 345 kV Transmission Line and the Nobles County substation to Chanarambie substation 115 kV Transmission Line and the Nobles County substation dated April 30, 2004, MEQB Docket No. 03-73-TR-XCEL, unless this Permit establishes a different requirement in which case this Permit shall prevail.
2. **Field Representative.** At least ten days prior to commencing construction, the Permittee shall advise the EQB in writing of the person or persons designated to be the field representative for the Permittee with the responsibility to oversee compliance with the conditions of this Permit during construction. This person's address, phone number, and emergency phone number shall be provided to the EQB, which may make the information available to local residents and public officials and other interested persons. The Permittee may change its field representative at any time upon written notice to the EQB.
3. **Cleanup.** All waste and scrap that is the product of construction shall be removed from the area and properly disposed of upon completion of each task. Personal litter, including bottles, cans, and paper, from construction activities shall be removed on a daily basis.
4. **Vegetation Removal.** The Permittee shall minimize the number of trees to be removed as part of the construction of the line, taking into account Permit Condition IV.H.1,

which recognizes that the Permittee has obligations to comply with clearance requirements.

5. **Erosion Control.** The Permittee shall implement reasonable measures to minimize runoff during construction and shall plant or seed non-agricultural areas that were disturbed where structures are installed. Upon request, the Permittee shall submit to the EQB a copy of any Soil Erosion and Sediment Control Plan prepared for the Minnesota Pollution Control Agency as part of a storm-water runoff permit application.
6. **Temporary Work Space.** The Permittee shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized right-of-way.
7. **Restoration.** The Permittee shall restore all temporary work spaces, access roads, and other private lands affected by construction of the transmission line. Restoration must be compatible with the safe operation, maintenance, and inspection of the transmission line. Within sixty days after completion of all restoration activities, the Permittee shall advise the EQB in writing of the completion of such activities.
8. **Notice of Permit.** The Permittee shall inform all employees, contractors, and other persons involved in the construction of the transmission line of the terms and conditions of this Permit.

C. Periodic Status Reports. Upon request, the Permittee shall report to the EQB on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittee need not report more frequently than quarterly.

D. Complaint Procedure. Prior to the start of construction, the Permittee shall submit to the EQB the company's procedures to be used to receive and respond to complaints. The procedures shall be in accordance with the requirements set forth in Attachment B to this Permit.

E. Notification to Landowners. The Permittee shall provide all affected landowners with a copy of this Permit at the time of the first contact with the landowners after issuance of this Permit.

F. Drain Tile Restoration Plan. Prior to the start of construction, the Permittee shall submit to the EQB its procedures for minimizing drain tile damage during construction and operation and restoration policies. Permittee must submit the Drain Tile Restoration Plan to the EQB for review prior to beginning construction as described in Permit General Conditions, Section IV.A, above.

G. Completion of Construction.

1. **Notification to EQB.** At least three days before the line is to be placed into service, the Permittee shall notify the EQB of the date on which the line will be placed into service and the date on which construction was complete.
2. **As-Builts.** Within 180 days of completion of the project, the Permittee shall submit copies of all the final as-built plans and specifications developed during the project.
3. **GPS Data.** Within sixty days after completion of construction, the Permittee shall submit to the EQB, in the format requested by the EQB, geo-spatial information (GIS compatible maps, GPS coordinates, etc.) for all above ground structures associated with the transmission lines and each substation connected.

H. Electrical Performance Standards.

1. **Grounding.** The Permittee shall design, construct, and operate the transmission line in such a manner that the maximum steady-state short-circuit current shall be limited to five milliamperes rms alternating current between the ground and any non-stationary object within the right-of-way including but not limited to, large motor vehicles and agricultural equipment. All fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the short circuit current between ground and the object so as not to exceed one milliamperes rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the National Electric Safety Code.
2. **Electric Field.** The transmission line shall be designed, constructed, and operated in such a manner that the electric field measured one meter above ground level immediately below the transmission line shall not exceed 8.0 kV/m rms.
3. **Interference with Communication Devices.** If interference with radio or television, satellite or other communication devices is caused by the presence or operation of the transmission line, the Permittee shall take whatever action is prudently feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

I. Other Requirements.

Applicable Codes. The Permittee shall comply with applicable North American Electric Reliability Council (NERC) planning standards and requirements of the National Electric Safety Code (NESC) including clearances to ground, clearance to crossing utilities, clearance to buildings, right-of way widths, erecting power poles, and stringing of transmission line conductors.

Other Permits. The Permittee shall comply with all applicable state rules and statutes. The Permittee shall obtain all required permits for the project and comply with the conditions of these permits. A list of the required permits is included in the permit

application and the environmental impact statement. The Permittee shall submit a copy of such permits to the EQB upon request.

Pre-emption. Pursuant to Minnesota Statutes section 116C.61, subdivision 1, this Site Permit shall be the sole route and substation site approval required to be obtained by the Permittee for construction of the facilities and this Permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose government.

J. Delay in Construction. If the Permittee has not commenced construction or improvement of the route within four years after the date of issuance of this Permit, the EQB shall consider suspension of the Permit in accordance with Minn. Rules part 4400.3750.

V. SPECIAL CONDITIONS

Permanent Right-of-Way Acquisition.

1. The Permittee may obtain up to 80 feet of right-of-way when the 115 kV transmission line does not parallel or utilize existing highway right-of-way, including those portions of the route where the line is to be double circuited with an existing line. Where the transmission line parallels local or county roadways, Xcel Energy may acquire up to 45 feet of right-of-way for the 115 kV HVTL outside the roadway right-of-way.
2. The Permittee may obtain up to 150 feet of right-of-way when the 345 kV transmission line does not parallel or utilize existing highway right-of-way, including those portions of the route where the line is to be double circuited with an existing line. Where the transmission line parallels the Interstate or other highway, Xcel Energy may acquire up to 80 feet of non-roadway right-of-way for the 345 kV HVTL.
3. Xcel Energy shall be restricted to the south side of the Interstate along Segment I5 of the Modified Interstate Route for the 345 kV line, near Luverne,.
4. To allow detailed design flexibility in the expanding area near Luverne, Xcel Energy has a one-mile wide route corridor for the 345 kV line near Luverne -- beginning at the center of I-90 and heading south -- for the portion of the route beginning two miles east of Highway 75 and ending two miles west of Highway 75. Xcel Energy shall provide the final alignment in this area for staff review as described in Permit General Conditions, Section IV.A.
5. To allow Xcel Energy flexibility during detailed design to consolidate and reduce congestion due to other existing and future wind-energy related transmission lines near the Chanarambie Substation, a route corridor up to 6,600 feet wide is authorized for the 115 kV line along Route segment W6 near the Chanarambie Substation in sections 6, 7, and 18 of Chanarambie Township as shown in Figure A6 in Attachment A.
6. The 115 kV line is to be located on the south side of Segment E3c and the east side of segment E3b to avoid the homes on the north side of the road on these route segments.

7. The 115 kV line in Section 21 of Chanarambie Township is to be consolidated on the same poles with existing 69 kV and 34.5 kV lines and located on the north side of the road in area near the Grant Post residence.
8. Unless Xcel Energy requests different structures in the Plan and Profile procedures in Permit Section IV.A, for those sections of the designated route where the 345-kV HVTL is to be constructed on the same route segment as an existing 161-kV HVTL, the new 345-kV HVTL and existing 161-kV HVTL are to be constructed as a 161-kV/345-kV “double-circuit” HVTL on single-pole structures. These 161/345 kV double-circuit structures are to be constructed to be capable of future expansion to a 345kV/345kV double-circuit HVTL.
9. Unless Xcel Energy requests different structures in the Plan and Profile procedures in Permit Section IV.A, for those sections of the designated route where the 115-kV HVTL is to be constructed on the same route as an existing 69-kV HVTL, the new 115-kV HVTL and existing 69-kV HVTL are to be constructed as a 69-kV/115-kV “double-circuit” HVTL on single-pole structures. Xcel Energy is authorized but not required to construct these 69-kV/115-kV double-circuit structures to be capable of future expansion to a 115-kV/115-kV double-circuit HVTL.
10. Xcel Energy is authorized to have flexibility to consider designing any of the lines within a mile of the Nobles County Substation, the Chanarambie Substation and the anticipated Fenton Substation as multiple circuit structures to accommodate additional transmission lines.
11. Xcel Energy is required to work with the townships and counties along the routes to accommodate their concerns regarding drain tiles, pole depth and placement in relationship to roads.
12. Xcel Energy is required to designate an environmental inspector for this Project to ensure compliance with the permit conditions.
13. Along Route segment I9 of the approved route for the 345-kV HVTL, Xcel Energy shall work with affected landowners on both sides of I-90, including the Posts, to minimize impacts to the extent possible—including giving additional consideration of the I-90 crossing option or a variation. Prior to completing right-of-way acquisition or beginning construction, Xcel Energy must submit the preliminary layout in this area to the EQB for review as described in Permit General Conditions, Section IV.A.

VI. PERMIT AMENDMENT

This permit may be amended at any time by the EQB or authorized successor agency of the State of Minnesota. Any person may request an amendment of this permit by submitting a request to the Chair in writing describing the amendment sought and the reasons for the amendment. The Chair will mail notice of receipt of the request to the Permittee. The EQB may amend the permit after affording the Permittee and interested persons such process as is required.

VII. PERMIT TRANSFER

The Permittee may request at any time that the EQB transfer this permit to another person or entity. The Permittee shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer. The person to whom the permit is to be transferred shall provide the EQB with such information as the EQB shall require to determine whether the new permittee can comply with the conditions of the permit. The EQB may authorize transfer of the permit after affording the Permittee, the new permittee, and interested persons such process as is required.

VIII. REVOCATION OR SUSPENSION OF THE PERMIT

The EQB may initiate action to revoke or suspend this permit at any time. The EQB shall act in accordance with the requirements of Minnesota Rules part 4400.3950 to revoke or suspend the permit.